

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061100 A1

(51) International Patent Classification⁷: **B01J 20/18**,
B01D 53/04

(21) International Application Number:
PCT/EP2004/014911

(22) International Filing Date:
16 December 2004 (16.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03/15123 22 December 2003 (22.12.2003) FR
60/565,299 26 April 2004 (26.04.2004) US

(71) Applicant (for all designated States except US): CECA
S.A. [FR/FR]; 4-8, Cours Michelet, F-92800 Puteaux (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LUTZ, Cé-
cile [FR/FR]; 9, Rue Monpensier, F-64000 Pau (FR).
SCHMITT, Paul-Guillaume [FR/FR]; 15, Rue Galliéni,
F-92600 Asnieres (FR).

(74) Agent: TREUIL, Claude; Arkema, Département Pro-
priété Industrielle, 4-8 Cours Michelet - La Défense 10,
F-92091 Paris La Defense (FR).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA,
ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ,
NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT,
BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,
HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG)

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF PURIFYING A GAS STREAM CONTAMINATED BY CO₂ AND ONE OR MORE HYDROCARBONS
AND/OR NITROGEN OXIDES BY ADSORPTION ON AN AGGREGATED ZEOLITIC ADSORBENT

(57) Abstract: The present invention relates to a novel method of purifying a gas stream contaminated by CO₂, hydrocarbons and/or
nitrogen oxides, in particular a gas stream based an air or a syngas, by adsorption an a bed of aggregated zeolitic adsorbent based an
an LSX zeolite or LSX and X zeolites, of which at least 90% of the exchangeable cationic sites of the LSX zeolite or of the LSX/X
zeolite blend are occupied by sodium Ions, and the inert binder of which represents at most 5% of the weight of the adsorbent.

WO 2005/061100 A1